

AMENDMENTS TO THE CLAIMS

1. (Previously Presented) A mobile communications device comprising:
 - a wireless transceiver;
 - memory to store an audio file; and
 - a processor configured to:
 - analyze the audio file;
 - calculate synchronizing information based on the analysis of the audio file; and
 - generate a pattern in which to render a complementary multi-media effect synchronously with the playback of the audio file based on the calculated synchronizing information.
2. (Original) The mobile communications device of claim 1 wherein said information is timing information.
3. (Original) The mobile communications device of claim 1 wherein said information is instrument type information.
4. (Original) The mobile communications device of claim 1 wherein said processor stores the synchronizing information in said memory.
5. (Original) The mobile communications device of claim 1 wherein said processor generates a control signal during playback of the audio file to control the complementary multi-media effect according to the synchronizing information.

6. (Original) The mobile communications device of claim 5 wherein the complementary multi-media effect comprises tactile feedback, and said control signal controls a tactile feedback generator in synchronization with the synchronizing information.

7. (Original) The mobile communications device of claim 5 wherein the complementary multi-media effect comprises one or more lights, and said control signal controls the one or more lights in synchronization with the synchronizing information.

8. (Original) The mobile communications device of claim 5 wherein the complementary multi-media effect comprises a camera, and said control signal activates the camera to take a picture in synchronization with the synchronizing information.

9. (Original) The mobile communications device of claim 5 wherein the complementary multi-media effect comprises a video sequence, and said control signal controls a display to playback said video sequence in synchronization with the synchronizing information.

10. (Original) The mobile communications device of claim 1 further comprising a system interface, and wherein said processor generates a control signal during playback of the audio file to control an external device connected via the system interface according to the synchronizing information.

11-21. (Cancelled).

22. (Previously Presented) A method of synchronizing multi-media effects with an audio file in a mobile communications device, the method comprising:

analyzing an audio file stored in memory of the mobile communications device;
calculating synchronizing information based on the analysis of the audio file; and
generate a pattern in which to render a complementary multi-media effect in the mobile communications device synchronously with the playback of the audio file based on the calculated synchronizing information.

23. (Original) The method of claim 22 wherein the synchronizing information comprises timing information.

24. (Original) The method of claim 22 wherein the synchronizing information comprises instrument type information.

25. (Original) The method of claim 22 further comprising storing the synchronizing information in memory.

26. (Original) The method of claim 22 wherein synchronizing a complementary multi-media effect comprises generating a control signal during playback of the audio file to control the complementary multi-media effect according to the synchronizing information.

27. (Original) The method of claim 26 further comprising controlling a tactile feedback generator in synchronization with the synchronizing information.

28. (Original) The method of claim 26 further comprising controlling one or more lights in synchronization with the synchronizing information.

29. (Original) The method of claim 26 further comprising controlling a camera to take one or more pictures in synchronization with the synchronizing information.

30. (Original) The method of claim 26 further comprising displaying a sequence of one or more video frames in synchronization with the synchronizing information.

31-40. (Cancelled).

41. (Previously Presented) A method of synchronizing one or more complementary multi-media effects with an audio file in a mobile communications device, the method comprising:

- selecting a sample from an audio file stored in memory in a mobile communications device;
- analyzing said sample to calculate synchronizing information; and
- generating a pattern in which to render one or more complementary multi-media effects in the mobile communications device synchronously with the playback of the audio file based on the calculated synchronizing information.

42. (Original) The method of claim 41 wherein analyzing said sample to determine synchronizing information comprises sectioning said sample into a plurality of measures, each said measure comprising an equivalent number of notes.

43. (Previously Presented) The method of claim 42 wherein analyzing said sample to calculate synchronizing information further comprises determining the notes that occur within a desired beat in each said measure.

44. (Previously Presented) The method of claim 43 wherein analyzing said sample to calculate synchronizing information further comprises calculating a weight value by summing a velocity parameter of a corresponding note-on event for each said note that occurs within said desired beat in each said measure.

45. (Previously Presented) The method of claim 41 wherein analyzing said sample to calculate synchronizing information comprises calculating a first value and a second value based on a first candidate time signature and a second candidate time signature, respectively.

46. (Previously Presented) The method of claim 45 wherein analyzing said sample to calculate synchronizing information further comprises selecting the highest value from said first and second values to select a time signature.

47. (Original) The method of claim 46 wherein synchronizing the one or more complementary multi-media effects with the audio file comprises associating said selected time signature with the audio file.

48. (Previously Presented) The method of claim 41 wherein analyzing said sample to calculate synchronizing information comprises sampling the output of a MIDI synthesizer in the mobile communications device.

49. (Previously Presented) The method of claim 48 wherein analyzing said sample to calculate synchronizing information further comprises detecting a peak amplitude within said sample.

50. (Original) The method of claim 49 further comprising comparing said detected peak amplitude to a threshold value.

51. (Original) The method of claim 50 wherein synchronizing the one or more complementary multi-media effects with the audio file comprises generating a control signal based on the comparison of said detected peak amplitude and said threshold value.

52. (Original) The method of claim 50 wherein synchronizing the one or more multi-media effects with the audio file varying the intensity of the one or more complementary multi-media effects based on the comparison of said detected peak amplitude and said threshold value.

53. (Original) The method of claim 50 wherein synchronizing the one or more complementary multi-media effects comprises varying the duration of activation of the one or more complementary multi-media effects based on the comparison of said detected peak amplitude and said threshold value.

54. (Original) The method of claim 41 further comprising overwriting selected information in the audio file with the synchronizing information.

55. (Original) The method of claim 41 further comprising storing the synchronizing information in memory of the mobile communications device.

56. (Original) The method of claim 41 wherein synchronizing the one or more complementary multi-media effects with the audio file comprises generating a control signal to the one or more multi-media effects based on the synchronizing information during playback of the audio file.

57. (Previously Presented) A circuit comprising:

a microprocessor programmed to:

analyze an audio stream;

calculate synchronizing information based on the analysis of the audio stream; and

generate a pattern in which to render one or more complementary multi-media effects

synchronously with the audio stream during playback of the audio stream based on the calculated synchronization information.